

Message

**From:** GT700@dnvps.com [GT700@dnvps.com]  
**Sent:** 11/13/2013 10:40:38 PM  
**To:** Robert Love [rlove@aet-tankers.com]  
**CC:** AETSM - Team Atlantic [Team-Atl@aet-tankers.com]; Eagle Birmingham [eagle.birmingham@aet-tankers.com]  
**Subject:** EAGLE BIRMINGHAM, FUEL ANALYSIS REPORT, OFF US GULF, 05-NOV-2013, SAMPLE : HOU1327029

To: AMERICAN EAGLE TANKERS, INC.  
 Attn: Mr Robert Love, Bunker Manager  
 Attn: Atlantic Fleet

Cc: The Master Of 'EAGLE BIRMINGHAM'  
 Attn: Chief Engineer

DNV Petroleum Services - Fuel Analysis Report dated: 13-Nov-2013

Vessel: **EAGLE BIRMINGHAM (9123192)**

Sample Number	HOU1327029
Product Type	(HFO)
Bunker Port	OFF US GULF
Bunker Date	05-Nov-2013
Sampling Point	SHIP MANIFOLD
Sampling Method	CONTINUOUS DRIP
Sent From	BEAUMONT/PORT ARTHUR
Date Sent	11-Nov-2013
Arrived at Lab	12-Nov-2013
Supplier	CHEM OIL
Loaded From	MISS CLAUDIA
Quantity per C.Eng.	UNKNOWN

Seal data DNVPS, SEAL INTACT, 7262621

Related Samples	
Supplier	7262622
Ship	7262623
SHIP MARPOL	7262624
MARPOL	234753

Receipt Data	Unit	
Source Of Data		B.D.N
Density @ 15°C	kg/m <sup>3</sup>	988.2
Viscosity @ 50°C	mm <sup>2</sup> /s	351.3
Sulfur	% m/m	2.22
Volume @ 60°F	bbl	6377.575
Quantity	MT	1000.576

Tested Parameter	Unit	Result	RMG380
Density @ 15°C	kg/m <sup>3</sup>	988.5	991.0
Viscosity @ 50°C	mm <sup>2</sup> /s	372.7	380.0
Water	% V/V	0.1	0.5
Micro Carbon Residue	% m/m	11	18
Sulfur	% m/m	2.06	3.50
Total Sediment Potential	% m/m	0.01	0.10
Ash	% m/m	0.05	0.15
Vanadium	mg/kg	149	300
Sodium	mg/kg	9	
Aluminium	mg/kg	16	
Silicon	mg/kg	17	

Iron	mg/kg	20	
Nickel	mg/kg	41	
Calcium	mg/kg	8	
Magnesium	mg/kg	1	
Zinc	mg/kg	3	
Phosphorus	mg/kg	1	
Potassium	mg/kg	1	
Pour Point	°C	LT 24	30
Flash Point	°C	GT 70	60
Acid Number	mg KOH/g	0.36	
Strong Acid Number	mg KOH/g	0.00	
<u>Calculated Values</u>			
Aluminium + Silicon	mg/kg	33	80
Net Specific Energy	MJ/kg	40.51	
CCAI (Ignition Quality)	-	850	
Quantity (Weight)	MT	1000.797	
Quantity Difference	MT	0.221	

**Note:**

LT means Less Than, GT means Greater Than.

Quantity (Weight) is based on BDN Volume, DNVPS Density and a weight factor of 1.1 kg/m<sup>3</sup> (ASTM D1250-80 Table 56).

Specification Comparison :

Results compared with amended ISO 8217:2005 specification RMG380, table 2. Based on this sample the specification is met.

Operational Advice :

Approximate fuel temperatures:

**Injection:**

145°C for 10 mm<sup>2</sup>/s  
125°C for 15 mm<sup>2</sup>/s  
115°C for 20 mm<sup>2</sup>/s  
110°C for 25 mm<sup>2</sup>/s

**Transfer :**

45°C

Best Regards,

On behalf of DNV Petroleum Services Pte Ltd

Christian Ryder

Assistant Technical Advisor

End of Report for EAGLE BIRMINGHAM

If not properly aligned, please change font to Courier New, size 10.

Reference to part(s) of this report which may lead to misinterpretation is prohibited.

For technical or operational advice or further information on this report please contact your nearest DNVPS office or contact us directly at

Tel : +1 (281) 470 1030

Email : Houston@dnvps.com

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